# Photovoltaic Power for Small, Low Cost Outer Solar System Missions

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Recent advances in photovoltaic solar array technology, as represented by the NASA/JPL APSA (Advanced Photovoltaic Solar Array) program, have lead to a substantial increase in array specific performance (power/mass) . In addition, this technology, based on the use of a flexible deployable solar cell blanket, can provide a compact package for minimizing launch stowage volume. The combination of this array technology with advanced silicon or gallium arsenide(GaAs) cell technology can potentially power missions at distances ranging from the asteroid belt. (2 AU) to Saturn (9.5 AU). This paper will present approaches for adapting APSA technology to small spacecraft. In addition, there will be a review of recent progress in developing high efficiency silicon and GaAs cells for use in IJIO'(10W intensity and low temperature) environments. Results of recent silicon and GaAs cell measurements under IJIT conditions will be presented to establish cell performance capabilities. Array designs and projections for array performance will be discussed for applications out to 9.5 AU.